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The association between family digital rules and the development of emotion comprehension in preschool children

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Abstract

Context and relevance. The pervasive engagement of modern preschoolers with the digital environment calls for a nuanced understanding of how family practices mediate its impact on child development. **Objective.** Moving beyond simplistic measures of screen time, this study analyzes the relationship between child-reported parental digital mediation and the annual growth in emotion comprehension during the preschool years. **Hypothesis.** Child-reported parental digital mediation (i.e., time limits, content restrictions, and rules governing the conditions of digital activity) serves as a significant predictor of the annual increase in emotion comprehension in preschoolers. **Methods and materials.** The sample included 1512 children ($M = 5,7$ years; $SD = 4,11$ months) assessed at the first time point in senior kindergarten groups, with a follow-up assessment of 1339 children ($M = 6,6$ years; $SD = 4,5$ months) one year later in preparatory groups. At both stages, children's emotion comprehension was assessed. Children also reported on family digital rules (time limits, content restrictions, and rules-conditions), while parents reported on their child's screen time. **Results.** No significant associations were found between any type of digital rule and the gain in emotion comprehension. This pattern was identical for boys and girls, despite boys demonstrating significantly higher screen time. Screen time itself also did not predict growth in emotion comprehension. **Conclusions.** The mere presence of digital rules, even when reported by the child, does not predict emotional development in preschool age. From the perspective of cultural-historical psychology, a formal rule not accompanied by emotional interaction with an adult is not internalized and remains an external constraint. The study highlights the need to shift the research focus from the existence of rules to the quality of their internalization within joint adult-child activity.

Keywords: emotional development, parental mediation, digital capital, screen time, preschoolers

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Связь семейных цифровых правил с развитием понимания эмоций в дошкольном возрасте

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Резюме

Контекст и актуальность. Повсеместное вовлечение современных дошкольников в цифровую среду требует тонкого понимания того, как семейные практики опосредуют ее влияние на развитие ребенка. **Цель.** Выходя за рамки упрощенных показателей экранного времени, проанализировать связь между воспринимаемой детьми родительской цифровой медиацией и годовым приростом понимания эмоций в дошкольном возрасте. **Гипотеза.** Воспринимаемая детьми родительская цифровая медиация (наличие временных и контентных ограничений, а также правил, регламентирующих условия цифровой активности) выступает значимым предиктором годового прироста понимания эмоций дошкольниками. **Методы и материалы.** Выборка включала 1512 детей ($M = 5,7$ лет, $SD = 4,11$ месяцев), обследованных на первом этапе в старших группах детских садов, с повторным обследованием 1339 детей ($M = 6,6$ лет, $SD = 4,5$ месяцев) через год в подготовительных группах. На обоих этапах проводилась диагностика уровня понимания эмоций. Также дети сообщали о наличии семейных правил использования цифровых устройств (ограничения времени, контентные ограничения и правила-условия), родители — об экранном времени ребенка. **Результаты.** Не было выявлено значимых связей между цифровыми правилами и приростом понимания эмоций. Этот паттерн оказался идентичным для мальчиков и девочек, несмотря на то что мальчики демонстрировали значимо более высокое экранное время. Экранное время также не выступило значимым предиктором развития понимания эмоций. **Выводы.** Наличие цифровых правил, даже если они осознавались ребенком, само по себе не является значимым предиктором эмоционального развития в дошкольном возрасте. С позиций культурно-исторической психологии, формальное правило, не сопровождаемое эмоциональным взаимодействием со взрослым, не интернализуется и остается внешним ограничителем, не затрагивающим аффективно-смысловую сферу ребенка. Исследование подчеркивает необходимость смещения фокуса с изучения наличия правил на анализ качества их интернализации в совместной деятельности ребенка и взрослого.

Ключевые слова: эмоциональное развитие, родительская медиация, цифровой капитал, экранное время, дошкольный возраст

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Introduction

Contemporary research places significant emphasis on the study of emotion comprehension in childhood. This construct is defined as the ability to consciously recognize the causes and consequences of one's own emotions and those of others, including the recognition, description, explanation, prediction, and regulation of their expression (Pons, Harris, 2000). In developmental psychology, it is considered an integral part of theory of

mind — a system of representations of mental phenomena that underpins social cognition (Sergienko, 2014). Although its foundations are laid in early childhood, emotion comprehension develops most intensively during the preschool years (Veraksa et al., 2021). A high level of emotion comprehension is associated with peer popularity, success in joint play and conflict resolution, academic achievement, and school readiness (Franco et al., 2017). Conversely, insufficient development is linked to difficulties in social adaptation (Pons, Harris, 2000),

an increased risk of anxiety and depression, and aggressive behavior (Trentacosta, Fine, 2010).

The immersion of preschoolers in the digital environment has created a new developmental context, extending parent-child interaction into the digital domain. Within the socio-cognitive framework of digital socialization, grounded in Vygotsky's cultural-historical approach, digital devices are understood as cultural tools mediating mental functions and social interaction (Soldatova, Chigarkova, Ilyukhina, 2025). In early childhood, the use of digital technologies is primarily mediated by adults; in the preschool years, however, children increasingly use devices independently (Smirnova, 2019). In most developed countries, children aged 3–6 use personal devices, and their daily screen time often reaches three hours (Veraksa et al., 2024). Numerous studies link high screen time to developmental risks (Lakicevic et al., 2025; Veraksa et al., 2024). At the same time, a growing consensus in the scientific community suggests that this approach is overly simplistic: the key factor is the quality and context of interaction with technology (Shatskaya et al., 2023), calling for new theoretical approaches.

Among the key concepts explaining the role of qualitative characteristics of children's digital experience is parental digital mediation. This is a key dimension of modern digital parenting, encompassing strategies through which parents guide, regulate, and discuss children's interactions with digital media (Rudnova et al., 2023). The main goals of mediation are regulating screen time (Kucirkova, Livingstone, 2017), protection from online risks (Smahel et al., 2020), and fostering children's digital literacy (Jeffery, 2021). The structure of mediation includes two key dimensions: parental control (limits and rules) and parental support (discussing content, emotional involvement) (Beyens, Keijsers, Coyne, 2022). Their combinations form more specific strategies: active mediation (discussion and guidance), restrictive mediation (rules and limits), authoritarian supervision (monitoring via passwords), monitoring (checking after use), and technical control (filters and software) (Ho et al., 2020).

Research demonstrates the contrasting role of parental digital mediation. Active mediation is associated with reduced risks of cyberbullying and childhood depression, whereas restrictive mediation and parental control are associated with increased risks (Beyens, Keijsers, Coyne, 2022). Restrictive strategies are also negatively related to opportunities for socialization and learning (Livingstone et al., 2017), while parents' development of children's digital literacy contributes to cognitive and academic skills (Soyoo et al., 2024). However, the link between digital mediation and emotional development remains largely unexplored: most studies focus on cognitive effects (Chigarkova, Soldatova, 2026). As Nabi and Wolfers (2024) note, the question of how digital experience

affects emotional development has yet to receive adequate attention. The present study aims to address this gap.

Evidence on the relationship between emotional development and digital experience is contradictory. On one hand, risks associated with high digital activity in preschool age have been identified: excessive screen time is linked to emotional lability (Ofli et al., 2021); prolonged device use at age 4 predicts lower emotion comprehension at age 6 (Skalick et al., 2019) and impairments in emotion regulation at age 8 (Cerniglia et al., 2021). Andoniou (2025) notes that children intensively engaged with digital technologies may lack depth of reflection and emotional competence. These effects may be explained by the displacement of live communication and the impoverishment of social signals necessary for emotion recognition (Nabi, Wolfers, 2022). On the other hand, Nabi and Wolfers (2022) found no correlations between screen time and emotional intelligence or emotion regulation. Moreover, active parental mediation, parental digital literacy practices, co-use of media, and discussion of characters' emotions improve children's emotional skills (Morelli et al., 2022; Soyoo et al., 2024). Thus, the nature of parental mediation acquires key importance. Yet, research directly linking parental mediation to emotion comprehension in preschoolers remains scarce.

The significance of parental mediation of children's digital activity is grounded in several theoretical frameworks. On one hand, it rests on Bourdieu's concept of social capital (Bourdieu, 1986), complemented by the notion of digital capital — the ensemble of resources, competencies, and attitudes for effective technology use (Ragnedda, 2018). In this context, parental mediation, especially structured control, acts as a behavioral manifestation of the family's digital capital. On the other hand, within the cultural-historical approach, digital technologies are viewed as new mediational tools combining both instrumental and symbolic properties (Smirnov, 2023; Veraksa et al., 2024). The system of rules set by parents can be understood as a symbolic-mediational tool for behavior (Smirnov, 2023). Through internalization, these rules transform external control into a mechanism for mastering one's own behavior, fostering the volition necessary for understanding and regulating emotions (Veraksa et al., 2020).

The existing literature does not allow definitive conclusions about the link between digital experience and emotional development due to several methodological limitations. As Nabi and Wolfers (2022) point out, the dominance of cross-sectional designs precludes analyzing the contribution of digital practices to the gain in emotional indicators. Sole reliance on parental reports risks common method variance

and social desirability bias, while child reports remain underutilized (Rudnova et al., 2023). The scarcity of longitudinal studies, lack of control for baseline emotional development and key covariates (age, screen time), and neglect of gender as a potential moderator (Duek, Moguillansky, 2020) further constrain the interpretation of data. Only isolated studies simultaneously consider quantitative and qualitative aspects of digital experience (Toth et al., 2025). Finally, most research focuses on problematic behavior in adolescents and adults, while the emotional development of preschoolers, particularly emotion comprehension, remains on the periphery.

The present longitudinal study aims to overcome the outlined limitations. Focusing on the establishment of rules for digital activity as a dominant parental mediation strategy (Goh, Bay, Chen, 2015), we examine the association between the presence of three types of family digital rules – time limits, content restrictions, and rules-conditions – and the annual gain in emotion comprehension from the senior to the preparatory preschool groups, separately for boys and girls. A key distinction from most prior work is the use of child, rather than parental, reports regarding rules. This approach minimizes social desirability bias and reflects the actual context of regulation as perceived by the child. Given the contradictory nature of previous findings and the absence of studies linking child reports of digital rules to the dynamics of emotion comprehension, we do not propose directional hypotheses. This exploratory study seeks to clarify whether the child's perception of the family's digital mediation structure contributes to emotional development in the preschool years.

Methods and materials

Sample and procedure

At the first data collection time point (Time 1), the study involved 1512 children attending senior kindergarten groups in Moscow (mean age = 5,7 years, SD = 4,11 months; 51,5% girls). One year later, at the second time point (Time 2, preparatory kindergarten groups), 1339 children were re-assessed (mean age = 6,6 years, SD = 4,5 months; 51% girls). The primary outcome measure was the gain in emotion comprehension, calculated as the difference between each child's individual assessment scores at Time 2 and Time 1. During Time 1, parents also completed a questionnaire reporting their child's typical daily screen time. Concurrently, individual semi-structured interviews were conducted with the children concerning their use of digital devices. Children's participation was voluntary; they could stop the tasks at any time and received a small incentive (a sticker) upon completion.

Measures

Emotion comprehension. Children's emotion comprehension was assessed using the Test of Emotion Comprehension (TEC; Pons, Harris, 2000), adapted for the Russian-speaking sample and demonstrating reliable psychometric properties (Veraksa et al., 2021). The test evaluates three components of emotion comprehension: external (recognition of emotions, understanding external causes, and the role of desires), mental (understanding hidden emotions and the influence of beliefs), and reflective (understanding mixed feelings and the role of morality in emotion regulation). An integral score for emotion comprehension is calculated based on task performance.

Child reports of parental digital mediation. Data on children's perceptions of rules were obtained through individual semi-structured interviews (average duration 7–10 minutes). Following informed consent from parents and verbal assent from the child, the interviewer conducted an audio recording. The interview began with general questions about the child's leisure activities, familiarity with digital devices, preferred types of digital activity, and purposes for using gadgets. Subsequently, the child was invited to describe any rules, prohibitions, or conditions set by parents or other family members regarding the use of digital devices – for example, concerning the duration of gadget use, permissible content of games and applications, and situations in which device use is allowed or restricted.

Verbatim transcripts of the interviews were analyzed using categorical coding. Based on children's responses, three dichotomous variables were identified: 1) time restrictions (e.g., “I can only play for 30 minutes”); 2) content restrictions (e.g., “I'm not allowed to watch shooter games”); 3) rules-conditions (e.g., “I can't play before bed” or “turn off the game when guests arrive”). To enhance reliability, four trained coders, blind to other data, independently coded each transcript. A final code was assigned only when at least three coders agreed. All transcripts achieved an agreement level of ≥ 3 out of 4, ensuring 100% consensus.

Screen time. Parents were asked to report the total time their child typically spends in front of digital device screens (tablet, smartphone, computer, television), separately for weekdays and weekend days. The average daily screen time (in minutes) was calculated using the formula: $((\text{weekday time (min)} \times 5) + (\text{weekend time (min)} \times 2)) / 7$.

Data analysis strategy

To assess the relationship between preschoolers' digital experience and the annual gain in emotion comprehension, two generalized linear models (Gaussian family, identity link function) were constructed separately for boys and girls. The dependent variable

in both models was the gain in emotion comprehension. All models controlled for baseline emotion comprehension (Time 1), child's age, and daily screen time. The key predictors were three binary variables: the presence or absence of time restrictions, content restrictions, and rules-conditions for using digital devices. All continuous predictors (baseline emotion comprehension, age, screen time) were standardized to z-scores ($M = 0$, $SD = 1$).

A comprehensive check of linear model assumptions was performed separately for each model. For the girls' model, Variance Inflation Factor (VIF) values ranged from 1,03 to 1,42; the Breusch-Pagan test indicated no violation of homoscedasticity ($\chi^2 = 5,89$, $p = 0,436$); the Shapiro-Wilk test confirmed the normality of residuals ($W = 0,988$, $p = 0,687$); and the Durbin-Watson test showed no autocorrelation ($DW = 2,01$, $p = 0,716$). For the boys' model, VIF values ranged from 1,05 to 1,37; the Shapiro-Wilk test also confirmed normality of residuals ($W = 0,984$, $p = 0,370$); no autocorrelation was detected ($DW = 1,99$, $p = 0,828$); and the Breusch-Pagan test revealed no heteroscedasticity ($\chi^2 = 16,0$, $p = 0,06$). Cook's distance analysis did not identify any influential observations (maximum values 0,069 and 0,140, respectively).

Descriptive statistics (mean, median, standard deviation, skewness, kurtosis), the Shapiro-Wilk test for normality, Student's t-test for independent groups (for gender differences in emotion comprehension scores and gain), the Mann-Whitney U test (for screen time, due to its non-normal distribution), and the chi-square test for categorical variables were also used. Effect sizes were calculated for all comparisons (Cohen's d for the t-test, rank-biserial correlation for the Mann-Whitney U test). All analyses were per-

formed using R (version 4.4.0) and Jamovi (version 2.6.44).

Results

Descriptive statistics for the study variables, presented separately for boys and girls, are shown in Table 1.

To test for gender differences, different statistical criteria were used depending on the shape of the variable distributions, assessed by skewness and kurtosis values (Table 1). For emotion comprehension (Time 1, Time 2) and its gain, whose distributions were considered close to normal (skewness and kurtosis not exceeding |1|), Student's t-test for independent samples was applied. The results revealed no significant gender differences for any of these measures: emotion comprehension at Time 1 ($t(2109) = -1,044$, $p = 0,297$, Cohen's $d = -0,045$), at Time 2 ($t(1867) = -1,183$, $p = 0,237$, Cohen's $d = -0,055$), or for the gain in emotion comprehension ($t(1393) = 0,998$, $p = 0,319$, Cohen's $d = 0,053$). For daily screen time, whose distribution significantly deviated from normal (skewness > 1 , kurtosis > 3), the Mann-Whitney U test was used. A significant difference between boys and girls was found ($U = 64,285$, $p = 0,023$, rank-biserial correlation $= -0,095$), with boys demonstrating higher screen time levels compared to girls.

Furthermore, 36,7% of children reported the presence of time limits, 5,5% reported content restrictions, and 70,9% reported rules-conditions for using digital devices. The chi-square test revealed no significant gender differences in the frequency of time limits ($\chi^2(1) = 0,561$, $p = 0,454$), rules-conditions ($\chi^2(1) = 0,380$, $p = 0,538$), or content restrictions ($\chi^2(1) = 3,06$, $p = 0,080$).

**Descriptive statistics for the main variables of both study waves
(Time 1, N = 1512, and Time 2, N = 1339)**

Table 1

Parameter	Sex	M (SD)	Median	Min	Max	Skewness (Std. Error)	Kurtosis (Std. Error)
Emotion comprehension (Time 1)	Boys	15,196 (2,6)	16	7	21	-0,353 (0,16)	-0,303 (0,32)
	Girls	15,847 (2,64)	16	8	22	-0,265 (0,168)	-0,424 (0,335)
Emotion comprehension (Time 2)	Boys	16,613 (2,68)	17	7	21	-0,551 (0,192)	0,012 (0,381)
	Girls	17,224 (2,34)	17	11	22	-0,267 (0,197)	-0,244 (0,391)
Gain in emotion comprehension	Boys	1,378 (3,07)	2	-6	9	-0,155 (0,199)	-0,234 (0,396)
	Girls	1,366 (2,04)	1	-7	10	0,051 (0,212)	0,428 (0,420)
Daily screen time	Boys	205,51 (136,31)	176	0	909	1,41 (0,13)	3,10 (0,25)
	Girls	187,91 (137,04)	154	0	986	1,46 (0,13)	3,36 (0,25)

Results for girls

The multiple regression model for girls was statistically significant ($R^2 = 0,538$, Adjusted $R^2 = 0,493$, $\chi^2(6) = 121$, $p < 0,001$) (Table 2). After controlling for baseline emotion comprehension (Time 1), age, and parental reports of daily screen time, none of the digital rule indicators reached statistical significance. The only significant predictor was baseline emotion comprehension, demonstrating a negative relationship with the gain. Neither the presence of family digital rules nor parental reports of daily screen time were significant predictors of the gain in emotion comprehension.

Results for boys

Similarly, the model for boys was statistically significant ($R^2 = 0,512$, Adjusted $R^2 = 0,477$, $\chi^2(8) = 149$, $p < 0,001$) (Table 3). After controlling for baseline level, age, and screen time, none of the digital rule indicators showed significant associations with the gain in emotion comprehension. Baseline emotion comprehension (Time 1) again emerged as the only significant negative predictor. Just as with girls, the presence of family digital rules and parental reports of daily screen time were not significant predictors of the gain in emotion comprehension.

To check the robustness of the obtained results, an additional regression analysis was performed. Models with sequential inclusion of each of the three types of digital rules (time limits, content restrictions, rules-conditions), both without and with control for daily

screen time, revealed no significant effects of the rules on the gain in emotion comprehension for either girls or boys (all $p > 0,05$). The change in explained variance after adding the rules was not significant (R from 0,001 to 0,004). Models that included interaction effects between baseline emotion comprehension and each of the rules also showed no statistically significant effects (for girls, all $p > 0,9$; for boys, p from 0,132 to 0,727). Thus, the absence of an association between family digital rules and the annual gain in emotion comprehension is a robust result, independent of model specification.

Discussion

Contemporary research on children's digital activity is shifting focus from the duration of screen time to its qualitative context, particularly the features of parental mediation aimed at structuring the child's interaction with technology. This longitudinal study focused on the contribution of the child's perception of family digital rules to their emotional development during the preschool years.

The results showed that none of the three types of rules (time restrictions, content restrictions, rules-conditions) were associated with the annual gain in emotion comprehension. This pattern was identical for boys and girls, despite boys having significantly higher screen

Table 2

Results of linear regression for the gain in emotion comprehension in girls

Predictor	Coefficient	SE	95% CI	z	p
Constant	1,544	0,635	[0,299; 2,789]	2,43	0,018
Emotion comprehension (Time 1)	-1,272	0,143	[-1,553; -0,992]	-8,892	< 0,001
Daily screen time	-0,077	0,139	[-0,350; 0,196]	-0,554	0,581
Age	0,009	0,141	[-0,267; 0,284]	0,063	0,95
Time limits	0,459	0,339	[-0,206; 1,124]	1,352	0,181
Content limits	0,14	1,226	[-2,263; 2,542]	0,114	0,91
Rules-conditions	0,075	0,342	[-0,595; 0,744]	0,218	0,828

Note: CI — confidence interval. All continuous predictors (age, screen time, baseline emotion comprehension at Wave 1) were standardized (z-scores). Statistically significant effects ($p < 0.05$) are highlighted in bold.

Table 3

Results of linear regression for the gain in emotion comprehension in boys

Predictor	Coefficient	SE	95% CI	z	p
Constant	1,53	0,318	[0,906; 2,153]	4,807	< 0,001
Emotion comprehension (Time 1)	-1,331	0,155	[-1,635; -1,026]	-8,56	< 0,001
Daily screen time	-0,174	0,157	[-0,481; 0,133]	-1,11	0,27
Age	0,222	0,155	[-0,081; 0,526]	1,436	0,155
Time limits	0,103	0,369	[-0,620; 0,827]	0,28	0,78
Content limits	0,465	0,562	[-0,638; 1,567]	0,826	0,411
Rules-conditions	-0,106	0,38	[-0,851; 0,639]	-0,278	0,782

Note: CI — confidence interval. All continuous predictors (age, screen time, baseline emotion comprehension at Wave 1) were standardized (z-scores). Statistically significant effects ($p < 0.05$) are highlighted in bold.

time. Total screen time, often a focus of parental control (Goh, Bay, Chen, 2015), also did not emerge as a significant factor.

The only consistent predictor was baseline emotion comprehension: the higher the initial scores, the smaller the annual gain. This aligns with the findings of Nabi and Wolfers (2022) regarding the absence of direct correlations between digital activity and emotional competencies, as well as evidence that parental preference for a structured environment, expressed through the introduction of rules, may be significant for cognitive development but not for the child's emotional sphere (e.g., Rudnova et al., 2024).

The absence of significant associations between digital rules and the gain in emotion comprehension points to the limitations of an approach based on the external structuring of digital activity. From the perspective of cultural-historical psychology, a sign (a rule established by parents) becomes a means for the child to master behavior only within a situation of live, emotionally rich interaction with an adult (Vygotsky, 1983). However, most digital games and applications do not involve such interaction; a “digital rift” (Smirnov, 2023) occurs – the adult withdraws from the child's event field. The unity of affect and intellect as a necessary condition for development (Zaporozhets, 1985) arises in the joint activity of adult and child, because affect is linked to orientation toward another person (Smirnov, 2023), during which the child internalizes the cultural model of emotions (Oshchepkova, Kartushina, Bukhalenkova, 2021). This dense mutual activity is absent in digital forms of activity. Moreover, digital activity appropriates the adult's function as a model of action, providing the child with a rigid script and relieving them of the need to experience their action as an act of personal agency. The device becomes active – a functional inversion occurs (Smirnov, 2023), depriving the child of a genuine act of mediation. A rule formally introduced without discussion and shared experience, without being imbued with emotional significance, is not internalized and remains an external constraint.

On the other hand, excessive structuring of the environment may deprive children of the opportunity to exercise initiative and autonomy (Smirnova, 2019), which are necessary for the development of socio-emotional skills (Polivanova, Ostroverkh, Strukova, 2022). A highly structured parenting style with an extensive system of formal rules may even reduce children's self-regulation (Liu et al., 2020), which underlies emotion comprehension. Finally, the effect of rules may depend on their combination with other parameters of digital experience (type of content, nature of activity), the quality of co-use of media, and parental emotional mentoring (Morelli et al., 2022), factors not accounted for in the current models.

The digital environment creates a new social situation of development. According to Vygotsky, it should be characterized by *perezhivanie* (emotional experience) related to digital devices. In this case, it would be legitimate to expect a connection between the child's emotional development and the characteristics of the digital environment. However, our results did not reveal such a connection. Interaction with digital devices can be understood as the child's inclusion in a digital cultural space, whose products are addressed to children. The logic of interaction with cultural objects presupposes the unity of affect and intellect as a condition for successful activity (Zaporozhets, 1985). According to Vygotsky, this unity manifests in the fact that “...every emotion is served by the imagination and is expressed in a whole series of fantastic representations and images” (Vygotsky, 1987, p. 198–199). He also considered the process of energy expenditure: “Energy expenditure occurs predominantly at one of two poles – either on the periphery or in the center” (Vygotsky, 1987, p. 200). At the periphery, energy is expended during motor reactions; in the center, in the form of *perezhivanie*: “...art is a central emotion... the emotions of art are intelligent emotions” (Vygotsky, 1987, p. 201). When interacting with art, *perezhivanie* is central in nature, whereas interaction with a digital device concentrates energy on the periphery, reducing energy expenditure on *perezhivanie*. Consequently, establishing regulations for device use stimulates manipulations rather than *perezhivanie*, attenuating emotional reactions.

The strengths of this study include the following. First, it was the first study on a Russian sample of preschoolers to examine the link between child-reported digital rules and the dynamics of emotion comprehension using a longitudinal design. A key distinction from most prior research was the move away from exclusive reliance on parental reports and the use of child interviews, which helped minimize social desirability bias and reflect the actual context of digital regulation as perceived by the child (Rudnova et al., 2023). Conducting separate analyses for boys and girls allowed us to account for gender as a potential moderator (Duek, Moguillansky, 2020). Furthermore, controlling for baseline emotion comprehension, age, and screen time enabled us to isolate the contribution of the qualitative aspect of digital experience.

Conclusion

Thus, this study demonstrates that parental digital mediation in the form of introducing formal digital rules regulating children's digital activity (time and content restrictions, as well as rules defining the conditions for digital activity) is not, in itself, directly associated with

advantages in preschoolers' emotional development. Daily total screen time also does not emerge as a significant predictor of the dynamics of emotion comprehension in the preschool years. The observed pattern was identical for boys and girls, despite boys exhibiting significantly higher daily screen time. In this connection, the prospects for future research lie in analyzing the mechanisms of internalization of family digital rules and identifying additional moderators that mediate their influence on the child's emotional development.

Future research directions should also consider the style of parent-child relationships and the extent of parental involvement in co-use of media — factors of joint activity that may prove to be stronger predictors of emotion comprehension than formal rules. Furthermore, subsequent studies require a shift from examining the mere presence of rules to analyzing the mechanisms of their internalization and the adult's role as an emotional mentor. As practical recommendations for specialists in psychological-pedagogical support, we propose refocusing educational work with parents: moving from simply

informing about the need for screen time limits and introducing formal rules toward developing competencies in emotional mentoring, co-experiencing digital activities, and creating a flexible environment that supports the child's initiative, rather than a rigidly structured set of regulations for digital activity.

Limitations. This study has several limitations. First, although child reports are a valuable source of information about the perceived context, they may not fully reflect the actual frequency and flexibility of rule application. Second, we did not differentiate between device types or the nature of digital activity, which may serve as important moderators, as the focus of the study was limited to examining the direct association between rules and emotional development. Third, data on family digital rules were collected only at the first time point (Time 1). Parental mediation strategies could have changed over the course of the year, which was not accounted for in this study. Future research should employ repeated measurements of rules to analyze the dynamics of mediation and its impact on children's emotional development.

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Alexander N. Veraksa — research planning; writing and design of the manuscript.

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All authors participated in the discussion of the results and approved the final text of the manuscript.

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Шатская А.Н. — идеи исследования; аннотирование, написание и оформление рукописи; планирование исследования; применение статистических, математических или других методов для анализа данных; контроль за проведением исследования.

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Conflict of interest

The authors declare no conflict of interest.

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Авторы заявляют об отсутствии конфликта интересов.

Ethics statement

The study was reviewed and approved by the Ethics Committee of the Faculty of Psychology, Lomonosov Moscow State University (No. 2025/35).

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